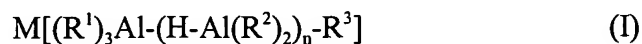


Claims:

1. A method for electrolytic coating of materials with aluminum, magnesium or alloys of aluminum and magnesium, in which method the material is immersed in an electrolyte for pretreatment, being connected as anode therein, and electrolytic coating is performed in the same electrolyte immediately thereafter, the electrolytic bath including organoaluminum compounds of general formulas (I) and (II)



as electrolyte, wherein n is equal to 0 or 1, M is sodium or potassium, and R^1 , R^2 , R^3 , R^4 can be the same or different, R^1 , R^2 , R^3 , R^4 being a C_1 - C_4 alkyl group, and a halogen-free, aprotic solvent being used as solvent for the electrolyte.

2. The method according to claim 1, characterized in that a mixture of the complexes $K[AlEt_4]$, $Na[AlEt_4]$ and $AlEt_3$ is employed as electrolyte.

3. The method according to claim 2, characterized in that the molar ratio of said complexes to $AlEt_3$ is from 1:0.5 to 1:3, preferably 1:2.

4. The method according to claim 2 or 3, characterized in that 0 to 25 mole-%, preferably 5 to 20 mole-% $Na[AlEt_4]$ is employed, relative to the mixture of the complexes $K[AlEt_4]$ and $Na[AlEt_4]$.

5. The method according to one or more of claims 1 to 4, characterized in that a mixture of 0.8 mol $K[AlEt_4]$, 0.2 mol $Na[AlEt_4]$, 2.0 mol $AlEt_3$ in 3.3 mol toluene is used as electrolyte.

6. The method according to claim 1, characterized in that a mixture of $Na[Et_3Al-H-AlEt_3]$ and $Na[AlEt_4]$ and $AlEt_3$ is used as electrolyte.

7. The method according to claim 6, characterized in that the molar ratio of $Na[Et_3Al-H-AlEt_3]$ to $Na[AlEt_4]$ is from 4:1 to 1:1, preferably 2:1.

8. The method according to claim 6 or 7, characterized in that the molar ratio of $Na[AlEt_4]$ to $AlEt_3$ is 1:2.

9. The method according to one or more of claims 6 to 8, characterized in that a mixture of 1 mol $Na[Et_3Al-H-AlEt_3]$, 0.5 mol $Na[AlEt_4]$ and 1 mol $AlEt_3$ in 3 mol toluene is used as electrolyte.

10. The method according to one or more of claims 1 to 9, characterized in that electrolytic coating is effected at temperatures of from 80 to 105°C, preferably from 91 to 100°C.

11. The method according to one or more of claims 1 to 10, characterized in that pretreatment is performed for a period of from 1 to 20 minutes, preferably from 5 to 15 minutes.

12. The method according to one or more claims 1 to 11, characterized in that pretreatment is performed at an anodic load of the materials with a current density of from 0.2 to 2 A/dm², preferably from 0.5 to 1.5 A/dm².

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